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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,966	01/18/2002	Mu-III Lim	CP-1230	3345

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EXAMINER
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CHANNAVAJALA, LAKSHMI SARADA

ART UNIT	PAPER NUMBER
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1615

DATE MAILED: 08/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/052,966

**Applicant(s)**

LIM ET AL.

**Examiner**

Lakshmi S. Channavajjala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-9 and 11-24 is/are pending in the application.
- 4a) Of the above claim(s) 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Receipt of amendment and remarks dated 11-23-04 is acknowledged.

Claims 1-3 and 5-9 have been examined. Claims 11-24 have been withdrawn from consideration.

### ***Response to Arguments***

Applicant's arguments filed 11-23-05 have been fully considered but they are not persuasive.

The following rejection of record has been maintained:

### ***Claim Rejections - 35 USC § 103***

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,645,771 to Mills.

Mills teaches benzyl tetrahydropyridine compounds having a structural formula I (col. 1, lines 30-67), wherein the variables R2-R6 on ring A stand for hydrogen, halogen, HYDROXY, alkyl or alkoxy radicals and R1 is a hydrogen or an alkyl radical. Mills also states that R2 and R6 can be hydroxy radicals, with the remainder variables being hydrogen (col. 2, lines 17-22). In particular, Mills suggests 2,6-dihydroxy substitution (col. 2, line 64) on the A ring. Mills does not specifically teach or exemplify the claimed compounds. However, Mills suggests preparation of various derivatives, including the specific dihydroxy derivatives of pyridines that include the claimed compounds. Accordingly, one of an ordinary skill in the art would have been able to prepare the claimed benzenediol compounds because Mills teaches tetrahydropyridine derivatives such as dihydroxybenzyl derivatives (col. 3, lines 17-36) and instant claims recite that R1 and R2 together can form a ring of C5 atoms i.e., pyridine.

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Claims 1, 2 and 5 -9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,888,283 to Bertini et al (Bertini).

Bertini teaches compounds that act as inhibitors of benzylamine oxidase, which have the general formula I (col. 3) in which the variables R1 and R2 can be hydrogen, hydroxyl or alkoxy etc, variables R3, R4 and R5 are hydrogen or alkyl etc. Thus, it is possible that any two of R1-R5 were to be hydroxyl groups, thus resulting in a benzene diol compounds. Particularly, Bertini suggests that for compounds of formula I containing hydroxyl groups at R1 and R2 positions, the synthesis steps comprise preparing benzaldehyde from benzene, transforming the benzaldehyde to oximes and reducing finally to benzylamino compounds (col. 4, lines 1-25 and example 1). Thus, Bertini teaches preparing compounds with alkoxy groups on the ring instead of the claimed hydroxyl groups. However, Bertini teaches a general method of preparing compounds with OH groups and even the claimed compounds differ from that taught by Bertini (example 1 compound) only in the absence of alkoxy groups, it would have been obvious for one of an ordinary skill in the art at the time of the instant invention to prepare the OH containing benzene derivatives of formula I employing the synthesis steps preparing benzaldehyde, transforming to oximes and reducing to benzylamino compounds because Bertini suggests that preparing the compounds by the above process is advantageous and easily carried out.

**RESPONSE:**

MILLS: Applicants argue that Mills does not teach or suggest all of the claimed limitations and hence prima facie obviousness has not been established. It is argued that Mills discloses tetrahydropyridine derivatives for use as inhibitors of aggregation of blood platelets and that applicants' compounds do not include the specific tetrahydropyridine of Mills. It is argued that in formula I, R1 and R2 together with a nitrogen atom to which they are attached form a C3 to C5 saturated or unsaturated ring and that the claimed compounds are described as couplers for

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oxidative hair coloring. However, the arguments are not persuasive because clearly the pyridine compound taught by Mills (the compound of formula I in col. 1-2), as admitted have 5 carbon atoms and R1 and R2 forms a ring together with the N atom to which they are attached. With respect to the argument regarding use of the compound taught by Mills, instant claims do not recite the argued limitation and moreover, the claims are directed to a compound and not use and hence the argument is moot.

BERTINI: Applicants argue that Bertini does not teach or suggest all of the claimed limitations and hence prima facie obviousness has not been established. It is argued that unlike the claimed compounds, the compound of formula I of Bertini am intended for use as selective inhibitors of benzylamino oxidases. It is argued that the variables of the formula I can be selected such that any two of the R1-R5 are hydroxyl resulting in a benzenediol and not a substituted amino methyl group (as claimed). Bertini does not teach away from substituting a methyl group for ethyl on the NH<sub>2</sub>. Further, in the instant claims recite substitution as an option and not as essential and also recite that R2 can be alkyl group and substituting a methyl group for a hydrogen with an expectation to achieve the same property of the compound would have been within the scope of a skilled artisan because compounds which are homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by -CH<sub>2</sub>- groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. In this case, a methyl group and H atom on N atom (of Bertini) constitutes a next obvious homolog of N atom with H and CH<sub>3</sub> and accordingly it would have been within the scope of a skilled artisan to substitute one for the other. With respect to the use of the compound of Bertini, as explained instant claims are directed to a compound and not a composition or a method. Accordingly, the argument is moot.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lakshmi S. Channavajjala whose telephone number is 571-272-0591. The examiner can normally be reached on 9.00 AM -6.30 PM

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman K. Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lakshmi S Channavajjala  
Examiner  
Art Unit 1615  
July 27, 2005



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